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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
NUTTER, NATHAN M	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/807,182	YAO ET AL.	
	Examiner	Art Unit	
	Nathan M. Nutter	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *5-7,11 and 14-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8-10,12 and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *05-06, 06-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This application has been re-assigned to Examiner Nathan M. Nutter in Art Unit 1711. All inquiries regarding this application should be directed to Examiner Nutter at telephone number 571-272-1076.

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-13, and the separate species of "lignocellulose" for the biomass, and "phenols and phenol derivatives" for the reactive substance, in the reply filed on 24 April 2006 is acknowledged.

Applicants state that "(c)laims 1-13 read on the elected species." This is not so, as only claims 1, 2, 8, 10, 12 and 13 are generic in Group I, with only claims 3, 4 and 9 reading on the elected species. As such, claims 1-4, 8-10, 12 and 13 are elected, and deemed to read on the elected species. Claims 5-7, 11 and 14-17 are withdrawn from consideration as being drawn to an invention and species, non-elected, without traverse.

Claim Interpretations

The recitation of "reactive substance" will be given the broadest interpretation, i.e. anything substance that may react in any manner. The additives may include any reactive component provided only that it has a melting point of "less than 100°C," as stipulated by the claims.

Further, when the reactive material is phenol, the only required components are the lignocellulose, phenol and acid catalyst. Order of addition of components has not been shown to be critical.

The reference to Carmody et al (US 2,319,386) is cited to show the conventionality of the phenolization of a resin under acid conditions with subsequent addition of a reactive formaldehyde, thereto, as recited in instant claim 13. Note page 7, second column (lines 56-63).

Claim Objections

Claims 10, 12 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 is deemed to be broader than the claim from which it depends since the claim requires that the reaction may occur with all reactive moieties present, as opposed to reacting the lignin and phenol first with subsequent addition of a reactive compound.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 8-10 and 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/898,477 (Shimo et al US 2005/0020794), newly cited. Although the conflicting claims are not identical, they are not patentably distinct from each other because the resin material produced herein is essentially identical to that recited in the copending application. The resins are produced from phenolated lignocellulose with a curing agent, e.g. reactive compound.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4, 8-10, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for phenol and derivatives thereof, and drying oils, the Specification does not reasonably provide enablement for the breadth of

the claims as being "reactive compounds." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The term "reactive compounds" is deemed to be broader than the enabling disclosure since it may include compounds that are clearly not within the scope of the invention, including acids and bases, etc. which could be employed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 10 of "or a precursor thereof" has no antecedent basis in claim 1 from which it depends.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 8-10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimo et al (US 2005/0020794).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The reference shows essentially what is recited and claimed herein.

Claims 1, 3, 8 and 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kunio et al (JP 05-140465), cited by applicants.

The Abstract teaches first the phenolization of lignocellulose, then reacting this with phenol. The weight percentages for the reactive phenol embrace those recited and claimed herein. Note the entire Abstract.

Claims 1, 2, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rachor et al (US 3,912,706), newly cited.

The reference teaches the phenolization of lignocellulose with subsequent reaction with formaldehyde at the paragraph bridging column 3 to column 4. That

passage also shows the weight percent of phenol employed to be as recited in claims 8 and 12.

Claims 1, 2, 8, 10 12 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Funabiki et al (US 4,058,403), newly cited.

The reference teaches the phenolization of lignocellulose with weight percentages as recited herein at column 1 (line 46) to column 2 (line 4), with subsequent further treatment with formaldehyde.

Claims 1, 2, 9, 10 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Calve et al (US 4,579,892), newly cited.

The reference teaches the phenolization of lignocellulose with subsequent reaction with formaldehyde. Note column 2 (lines 38-48) which shows the separate addition of phenol and formaldehyde.

Claims 1, 2, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tsujimoto et al (US 5,110,915), newly cited.

The reference teaches the phenolization of lignocellulose with subsequent reaction withformaldehyde. Note column 3 (lines 13-26 and 42-53), the paragraph bridging column 3 to column 4, the paragraph bridging column 5 to column 6 and column 6 (lines 41-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 8-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio et al (JP 05-140465), cited and for the reasons set out above, taken in view of Novotny et al (US 5,110,915), newly cited.

The reference to Novotny et al shows the phenolization of gum accroides using phenols, as recited in instant claims 3 and 4. Note page 1, column 1 (lines 13 et seq.). The reference shows the phenolization at the final paragraph of column 1 of page 1. The addition of other phenols is shown at page 2, column 2 (lines 41-46).

Subsequent employment thereof in the composition of Kunio et al would have been obvious to an artisan having an ordinary skill in the art, since they are of a Markush group having the common feature of being phenols.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan M. Nutter
Primary Examiner
Art Unit 1711

nmn

9 July 2006